

Montana Board of Oil and Gas Conservation Environmental Assessment

Operator: XTO Energy, Inc.
Well Name/Number: Cundiff Farms 24X-28
Location: SE SW Section 28 T23N R57E
County: Richland, MT; **Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 25-35 days drilling time.

Unusually deep drilling (high horsepower rig): A triple derrick rig, estimated 900-1000 HP to drill a single lateral Bakken Formation Horizontal Lateral, 20,438' MD/10,461' TVD.

Possible H₂S gas production: Slight

In/near Class I air quality area: No, not in a Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☒ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Existing pipeline for H₂S gas and sweet gas in the area.

Water Quality

(possible concerns)

Salt/oil based mud: Yes to intermediate casing string hole, oil based invert drilling fluids. Saltwater for the horizontal openhole lateral. Surface casing hole to be drilled with freshwater and freshwater mud.

High water table: No high water table anticipated.

Surface drainage leads to live water: No, closest drainages are unnamed ephemeral tributary drainages to South Lone Tree Creek, about 1/16 of a mile to the west and east from this location.

Water well contamination: None, surface hole will be drilled with freshwater and freshwater drilling fluids to 2,000', steel surface casing will be run and cemented to surface from 2,000' to protect any ground and surface waters. Closest water wells is about 3/4 of a mile to the northwest from this location. All other wells are 1 mile or further from this location. Depth of these domestic and stock water wells range from 40' and 240'.

Porous/permeable soils: No, sandy clay soils.

Class I stream drainage: No, Class I stream drainage.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of liquids (in approved facility)

☐ Other: _____

Comments: 2000' of surface casing is enough surface casing to cover Base Fox Hills Formation. Surface hole to be drilled with freshwater and freshwater drilling muds to 2000'. Steel surface casing will be run to 2000' and cemented to surface. Oil based invert drilling fluids will be recycled. Drill cuttings will be disposed of in the lined pit. After the well has been completed, completions fluids will go to a commercial Class II disposal.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None, anticipated.

High erosion potential: Yes, possible erosion potential, moderate cut, 14.6' and moderate fill, up to 12.6', required.

Loss of soil productivity: None, location to be restored after drilling well, if well is nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, large well site 430'X330'.

Damage to improvements: Slight, surface use is cultivated land.

Conflict with existing land use/values: Slight.

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☒ Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over existing county road, #127 and private road. A short new access road, about 0.3 of a mile will be built into this location off the existing private road. Oil based drilling fluids will be recycled. Completion fluids will be hauled to a Class II commercial disposal. Drill cuttings will be buried in the lined reserve pit. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No residences within a mile radius around this location.

Possibility of H2S: Slight

Size of rig/length of drilling time: Triple derrick drilling rig, 25 to 35 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Adequate surface casing cemented to surface with working BOP stack should mitigate any problems.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No, no game range/refuge in the area.

Threatened or endangered Species: Threatened or endangered species identified by USFWS in Richland County are the Pallid Sturgeon, Whooping Crane, Interior Lease Tern and Piping Plover.

Mitigation:

☐ Avoidance (topographic tolerance/exception)

☐ Other agency review (DFWP, federal agencies, DSL)

☐ Screening/fencing of pits, drillsite

☐ Other: _____

Comments: Private cultivated surface lands away from live water. No concerns.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified.

Mitigation

avoidance (topographic tolerance, location exception)

other agency review (SHPO, DSL, federal agencies)

Other:

Comments: Private cultivated surface lands away from live water. No concerns.

Social/Economic

(possible concerns)

Substantial effect on tax base

Create demand for new governmental services

Population increase or relocation

Comments: Horizontal Bakken Formation development oil well to an existing spacing unit. No concerns.

Remarks or Special Concerns for this site

Single lateral Bakken Formation development horizontal well 20,438'MD/10,461'TVD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ Steven Sasaki

(title:) Chief Field Inspector

Date: February 19, 2010

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Richland County water wells

(subject discussed)

February 19, 2010

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Richland County

February 19, 2010
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____